

CLAIMS

What is claimed is:

5 1. A composition for the targeted delivery of a therapeutic agent to a tissue expressing asialoglycoprotein receptors comprising an effective amount of the agent encapsulated in a liposome coupled to desialylated glycoprotein- α 1.

10 2. The composition of claim 1, wherein the therapeutic agent is a drug or a polynucleotide.

15 3. The composition of claim 2, wherein the polynucleotide is cDNA encoding a therapeutic protein, a ribozyme, and antisense DNA.

20 4. The composition of claim 1, wherein the therapeutic agent is selected from the group consisting of a cytotoxic drugs, a protein.

25 5. The composition of claim 4, wherein the cytotoxic drug is selected from the group consisting of doxorubicin, vincristine, daunorubicin, and amphiphatic amines.

 6. The composition of claim 1, wherein the desialylated glycoprotein- α 1 is coupled to the liposome by an avidin-biotin or thiol-maleamide linkages.

 7. A method for targeted delivery of a therapeutic agent to a tissue expressing asialoglycoprotein receptors comprising delivery to the tissue an effective amount of the composition of any of claims 1 to 6.

 8. A method for inhibiting the proliferation of liver cancer by administering to a subject in need of such therapy an effective amount of a composition containing doxorubicin encapsulated in desialylated glycoprotein- α 1 coupled to a liposome.

add A⁴

add B¹